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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/995,418	11/27/2001	Kristina H. McVicker	FER-289	1888

7590

01/09/2004

Kenneth A. Clark  
RANKIN, HILL, PORTER & CLARK LLP  
Suite 700  
925 Euclid Avenue  
Cleveland, OH 44115-1405

EXAMINER
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TALBOT, BRIAN K

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 01/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/995,418

Applicant(s)

MCVICKER ET AL.

Examiner

Brian K Talbot

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 November 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

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1. The amendment filed 10/21/03 has been considered and entered. Claim 21 has been added. Claims 1-21 remain in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 103***

3. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE-3804831 in combination with Ross (4,219,448) or Hanoka (5,698,451) or Amick et al. (5,320,684) further in view of Tobias et al. (5,286,288).

DE-3804831 teaches electroconductive coating composition for manufacturing solar cells. The conductive composition comprises 50-75% by weight of silver (with up to 50% of that being aluminum), 5-15% by weight of thermoplastic polyester resin and from 10-45% weight of an organic solvent. The solar cell is a silicon substrate. The composition is screened on the silicon substrate and fired to form the conductive coating. (abstract)

DE-3804831 fails to teach the coating composition having up to 50% glass particles.

Ross (4,219,448) or Hanoka (5,698,451) or Amick et al. (5,320,684) all teach fabricating contacts for solar cells which incorporate coating compositions which include metal particles, binders, organic vehicles and glass frit. The glass frit being in an amount of up to 50%. (see abstracts). Hanoka (5,698,451) further teaches the binder to be ethyl cellulose (col. 4, line 45).

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Therefore, it would have been obvious for one skilled in the art at the time the invention was made to have modified DE-3804831 composition with a glass frit as evidenced by Ross (4,219,448) or Hanoka (5,698,451) or Amick et al. (5,320,684) with the expectation of achieving similar success and an improvement in the adherence of the coating composition to the silicon substrate.

DE-3804831 in combination with Ross (4,219,448) or Hanoka (5,698,451) or Amick et al. (5,320,684) fail to teach the hot melt paste being a solid at 25°C and melting at between 35°C and 90°C.

Tobias et al. (5,286,288) teaches conductive hot melt inks for printing which re solid at 25°C and melt at between 75-175°C (abstract).

Therefore, it would have been obvious for one skilled in the art at the time the invention was made to have modified DE-3804831 in combination with Ross (4,219,448) or Hanoka (5,698,451) or Amick et al. (5,320,684) composition by making it a holt melt as evidenced by Tobias et al. (5,286,288) because of the advantages associated therewith, i.e. avoid harmful solvents and eliminate drying steps to get rid of the solvent and possibly eliminating drying all together.

4. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argued that the prior art failed to teach a hot melt paste solid at room temperature (25°C) and melting at between 35-90°C.

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Tobias et al. (5,286,288) teaches conductive hot melt inks for printing which re solid at 25°C and melt at between 75-175°C (abstract).

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K Talbot whose telephone number is (703) 305-3775. The examiner can normally be reached on Monday-Friday 6AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3775.

A handwritten signature in black ink, appearing to read "B K Talbot", with a stylized flourish at the end.

Brian K Talbot  
Primary Examiner  
Art Unit 1762

BKT  
January 5, 2004